

## CLAIMS

1. A method for reorganizing a table space in a database comprising the steps of:

(a) identifying LOB table spaces that are related to said table space being reorganized;

5 (b) concurrently creating a shadow data set for each of said LOB table spaces and a shadow data set for said table space and associated indexes;

(c) loading rows into shadow data sets, and for each row loaded, reading LOBs from each of LOB table spaces relating to a loaded row and writing said read LOB to a corresponding shadow data set; and

10 (d) switching original data set with shadow data sets.

2. A method for reorganizing a table space in a database, as per claim 1, wherein said method further comprising the steps of:

prior to step (a), blocking write access to data being reorganized; and

15 subsequent to step (d), allowing write operations related to data being organized to proceed.

3. A method for reorganizing a table space in a database, as per claim 1, wherein said method is implemented across networks.

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4. A method for reorganizing a table space in a database, as per claim 3, wherein said across network element is any of the following: local area network (LAN), wide area network (WAN), or the Internet.

5 5. A method for concurrently reorganizing logically related LOB table spaces in a database comprising the steps of:

(a) loading rows into allocated shadow data sets and extracting index keys for each loaded row, said data sets allocated for each table space and associated indexes, and

(i) for each row, identifying columns representing LOB data; and

10 (ii) for each column in said LOB data, using a rowid of current row to read said LOB data from its associated LOB table space and write said LOB data to the corresponding shadow data set; and

(b) switching original data set with said shadow sets including LOB shadows.

15 6. A method for concurrently reorganizing logically related LOB table spaces in a database, as per claim 5, wherein said method further comprising the steps of:

prior to step (a), blocking write access to data being reorganized; and

subsequent to step (b), allowing write operations related to data being organized to proceed.

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7. A method for concurrently reorganizing logically related LOB table spaces in a database, as per claim 5, wherein said method further comprising the steps of:

prior to step (a), unloading rows from original table spaces; and  
sorting unloaded rows,

5       whereby said step of loading rows into shadow data sets involves loading said sorted rows.

8. A method for concurrently reorganizing logically related LOB table spaces in a database, as per claim 5, wherein said method is implemented across networks.

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9. A method for concurrently reorganizing logically related LOB table spaces in a database, as per claim 8, wherein said across network element is any of the following:  
local area network (LAN), wide area network (WAN), or the Internet.

15   10. An article of manufacture comprising a computer usable medium having computer readable program code embodied therein which implements a method for concurrently reorganizing logically related LOB table spaces in a database, said medium comprising:

(a) computer readable program code loading rows into allocated shadow data sets and extracting index keys for each loaded row, said data sets allocated for each table  
20   space and associated indexes, and

(i) for each row, computer readable program code identifying columns representing LOB data; and

(ii) for each column in said LOB data, computer readable program code using a rowid of current row to read said LOB data from its associated LOB table space  
5 and write said LOB data to the corresponding shadow data set; and

(b) computer readable program code switching said original data set with said shadow sets including LOB shadows.

11. An article of manufacture as per claim 10, wherein said medium further comprises  
10 the steps of:

computer readable program code blocking write access to data being reorganized;  
and

computer readable program code allowing write operations related to data being organized to proceed.

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12. An article of manufacture as per claim 10, wherein said medium further comprises:

computer readable program code unloading rows from original table spaces; and

computer readable program code sorting unloaded rows,

whereby said computer readable program code for loading rows into shadow data

20 sets loads said sorted rows.

13. An article of manufacture as per claim 10, wherein said medium further comprises the steps of:

computer readable program code blocking write access to data being reorganized;

and

5 computer readable program code allowing write operations related to data being organized to proceed.

14. An article of manufacture comprising a computer usable medium having computer readable program code embodied therein which implements a method for reorganizing a

10 table space in a database, said medium comprising:

(a) computer readable program code identifying LOB table spaces that are related to said table space being reorganized;

(b) computer readable program code concurrently creating a shadow data set for each of said LOB table spaces and a shadow data set for said table space and associated

15 indexes;

(c) computer readable program code loading rows into shadow data sets, and for each row loaded, computer readable program code reading LOBs from each of LOB table spaces relating to a loaded row and computer readable program code writing said read LOB to a corresponding shadow data set; and

20 (d) computer readable program code switching original data set with shadow data sets.

15. An article of manufacture as per claim 14, wherein said medium further comprises the steps of:

computer readable program code blocking write access to data being reorganized;

5 and

computer readable program code allowing write operations related to data being organized to proceed.

16. A method for concurrently reorganizing logically related LOB table spaces in a  
10 database comprising the steps of:

(a) identifying LOB table spaces logically related to a table being reorganized and allocating shadow data sets for each table space and associated indexes;

(b) unloading rows from original table spaces;

(c) sorting said unloaded rows;

15 (d) loading rows into said allocated shadow data sets and extracting index keys for each row as it is loaded, and

(i) for each row, identifying columns representing LOB data;

(ii) for each column in said LOB data, using a rowid of current row to read the LOB from its associated LOB table space and write said LOB data to the  
20 corresponding shadow data set;

(e) sorting said index keys;

(f) building the indexes from said sorted index keys; and

(g) switching said original data set with said shadow sets including LOB shadows.

5 17. A method for concurrently reorganizing logically related LOB table spaces in a database, as per claim 16, wherein said method further comprising the steps of:

prior to step (b), blocking write access to data being reorganized; and

subsequent to step (g), allowing write operations related to data being organized to proceed.

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18. A system to reorganize a table space in a database comprising:

(a) an identifier to identify LOB table spaces that are related to said table space being reorganized;

(b) a shadow data set creator to concurrently create a shadow data set for each of  
15 said LOB table spaces and a shadow data set for said table space and associated indexes;

(c) a shadow data set loader to load rows into shadow data sets, and for each row loaded, reading LOBs from each of LOB table spaces relating to a loaded row and writing said read LOB to a corresponding shadow data set; and

(d) a data switcher to switch original data set with shadow data sets.

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19. A system as per claim 18, wherein said system is implemented across networks.

20. A system as per claim 19, wherein said across network element is any of the following: local area network (LAN), wide area network (WAN), or the Internet.